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DEPARTMENT OF AGRICULTURE ANNUAL REPORT

1961

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BASUTOLAND

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OF AGRICULTURE
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THE AGRICULTURAL INDUSTRY OF BASUTOLAND AND ACTIVITIES OF THE DEPARTMENT OF AGRICULTURE

PART I

SECTION I

REVIEW

1. THE TERRITORY

Basutoland is a mountainous country, some 11,700 square miles in extent.

Temperatures range from 90°F in summer, to as low as 3°F in winter. Rainfall is variable, but averages 29 inches yearly, mostly occurring during the summer months, October to March. The growing season for the main crops is comparatively short, commencing with the arrival of the spring rains during September or October and ending with the advent of the first frosts, usually towards the end of April.

Agriculture is the main industry of the Territory and, although maize is produced widely, particularly in the lowlands and foothills, it is consumed internally. The money earning products are wool, mohair, cattle, wheat, sorghums and peas, in that order.

Four-fifths of the Territory are steeply mountainous and almost without roads, although bridle paths and tracks, negotiable only by mules and pack horses, abound. The 250,000 inhabitants of these parts rely almost entirely upon these small, sure-footed animals for the transportation of themselves, their produce and their requirements.

The remaining one-fifth of the Territory consists of lowland area where soils are largely derived from sandstone, usually much less productive than the rich basalt mountain soils.

The greater proportion of the population lives, however, in the lowlands and foothills to the west of the Territory, where climatically and geographically, living conditions are not quite so difficult as in the mountain areas; but here crop yields are poor on account of soils which are fundamentally lacking in plant nutrients having been subjected to so many decades of exploitation. Monoculture, lack of return of animal and

crop wastes to the soil and soil erosion form the background to the crop production picture in the lowlands.

The estimated total acreage cultivated is a little over 1,000,000 acres.

This figure continues to increase each year as more and more virgin land is ploughed up, particularly in the mountain areas where temporary homes, used in the past only during the summer whilst herding stock, tend to become permanent.

At the present rate of increase it is estimated that the population will reach 1,000,000 by 1963.

2. POLICY

While the essential control services have been maintained, and where possible, intensified, there has been a marked increase in extension services.

Soil rehabilitation and stabilisation through the construction of dams, buffer strips, etc., have been continued and further attempts at protecting the natural pasture through grazing control have been made.

The importation for breeding of selected bulls, stallions, rams, boars and sows and of poultry has been continued. In the cattle industry, especially, improvement has been stepped up through the importation and resale of increased numbers of Brown Swiss bulls and cows.

The efficiency and ability of the Department's field staff has been stepped up by in-service training, and as a result it has been possible to give more attention to the encouragement of progressive farmers. It is the Department's policy to increase these services, and, by increased attention to the present progressive farmers and by encouraging the more backward to join their ranks, to lead an ever increasing proportion of Basutoland's farmers along the road to better farming, increased agricultural production, health and prosperity. The advent of local government and the increased interest being taken in the improvement of agriculture and agricultural services is encouraging and it is hoped that, as these relatively new committees find their feet, they will materially assist the Department in putting across its policy to the farmers, and also shoulder part of the unpopular regulatory duties which must of necessity be carried out.

3. STAFF

Mr. Makoa completed a twelve month course in Australia on sheep and wool and has returned to Basutoland as Livestock Officer in charge of small stock extension.

4. VISITORS AND VISITS

His Excellency the High Commissioner, visited the Territory from 4th to 6th June, 1961.

Visits were also paid to the Department by:

Mr. J. G. M. King, C.M.G., O.B.E., Director of Land Utilisation Swaziland; I.D.A., W.H.O., U.N.I.C.E.F., and F.A.O., teams in April; the B.B.C. Panorama team in May; Sir Richard Ramage in June, 1961; Mr. Barnes, an adviser on Soil Conservation to the Colonial Office, in July; Sir Bernard Braine, Professor Batson and Dr. Squires in August; Dr. Roach, ex Stellenbosch University in September; Mr. Lamb, the United Kingdom Trade Commissioner and Mrs. Lamb; Mr. Aldred of the Colonial Development Corporation; Mr. Essex of High Commissioner's Office and Mr. Garrard of the National Institute of Agricultural Engineering in October; Mr. van Eysingha, Consul for the Netherlands, Sir Gordon Hadow, Development Adviser to the High Commission Territories and Mr. J. E. Carter, Deputy Director General of Overseas Audit, in November.

In turn visits were paid by members of the Departmental staff to other territories:

Mr. D. D. Campbell, Director of Livestock and Agricultural Services, to the Director's conference at Wye during September and October; Dr. P. H. Brown and Dr. D. C. L. Wachter, Principal Veterinary Officer and Veterinary Officer respectively, to the meeting of the South African Veterinary Medical Association in Durban in September; Mr. J. H. Rhodes to the Extension Seminar of S.A.R.C.C.U.S. in May; Mr. S. H. Youthed to South West Africa; Mr. A. C. Macintosh, Agricultural Research, to the National Institute of Botany on a seed testing course; Mr. J. R. L. Kotsokoane, returned from a visit to the United States on a Carnegie grant to study Education and Extension; Mr. C. M. H. Morojele to an E.C.A. meeting in Nairobi; Mr. A. H. Gibson to National Institute of Agricultural Engineering.

5. WEATHER CONDITIONS

With the exception of mid-summer frosts in January and February and several summer hailstorms, the early part of the year was reasonable. Copious rain fell throughout Basutoland up till June and the winter came with cattle grazing, and crops in good heart. Livestock as a result wintered well. Drought conditions, however, prevailed during the spring months of August through October, and livestock, grazing and crops suffered badly and the planting of the main crops, Maize and sorghum was seriously delayed. Accordingly, crop prospects for 1962 are poor and should early frosts prevent the crops coming to maturity the country will face serious shortages. November and December again saw the advent of good rains and at the end of the year livestock and grazing had regained condition. Rainfall figures are given at Appendix I.

6. DISTRICT NOTES

These notes have been extracted from the district annual reports and give a summary of agricultural conditions in each district.

Butha Buthe

Rainfall:

Owing to drought during the spring months, which was aggravated by extensive and uncontrolled veld fires, grazing was poor and the condition of livestock suffered accordingly. No losses of stock were, however, reported.

Livestock improvement has made steady progress and with the opening of a livestock improvement centre at Qholaqhoe, progress should be stepped up considerably. It has proved possible to establish twelve centres where veterinary clinical services are available at regular, although, as yet, infrequent intervals. The disease position remains favourable.

Leribe

Rainfall: 29·83 inches.

In this district the too dry spring adversely affected the condition of livestock, but no losses were reported. Dosing has increased in efficiency and towards the end of the year close to 90 per cent of the sheep and goats were dosed each month. There were no major epizootics.

Drought, unseasonal frosts which affected summer crops in the mountains, and hailstorms, all combined to prevent a bumper harvest but crops were, on the whole, average to good. Prospects for maize and sorghum appear poor but summer wheat and peas show promise.

There has been a steady increase in the sale and use of fertilizers, which have gone hand in hand with an increase in acreage of land farmed by progressive farmers. Vegetable gardening has continued to progress but owing to organization difficulties the demand for vegetable seeds could not be met by the marketing societies. Four further credit societies were formed during the year. The training farm has been improved by the erection of two more rondavels which has doubled the intake of trainees. The output of vegetables, pigs and poultry has been satisfactory and income from the sale of vegetables, pigs, poultry and milk amounted to R80.00.

Some 550 persons visited the farm during the year. Chiefs and district councils have taken more interest in grazing control and prospects for progress on this most important aspect of the work appear brighter.

Berea

Rainfall: 29·02 inches.

The condition of livestock in the district remained fair throughout the year, but small stock dosing efficiency did not come up to expectation, being about 60 per cent of the total possible. Several outbreaks of quarter evil occurred but losses were not unduly heavy.

The number of Brown Swiss bulls at stud has increased to ten, while 25 Merino rams, 10 Angora, 18 pigs and 400 fowls were sold to Progressive farmers during the year. Frost, hail and the severe spring drought adversely affected crops. Good maize, sorghum, winter wheat and pea crops were harvested in the lowlands and foothills, but prospects for next year's maize and sorghum are poor.

Sales of fertilizer, vegetable seeds and carts dropped considerably during the year while the number of progressive farmers and the total

area farmed by them showed marked increase. This apparent anomaly has presumably been caused by the shortage of supplies available.

Maseru

Rainfall: 27.68 inches.

The condition of livestock was reasonable during the year. Dosing efficiency was poor in this district, but this can be attributed largely to the size of the district and the fact that a single veterinary assistant is responsible for forty-one tank areas – an obviously impossible task. There were no major epizootics during the year although several outbreaks of quarter evil were reported.

Three Brown Swiss bulls, three Basuto/Arab stallions, ninety-six Merino and thirty-five Angora rams, twenty-eight boars and six hundred and sixteen fowls were sold to farmers during the year.

Maize and sorghum crops were fair to good, but wheat and peas were poor. Prospects for next year are poor to fair. The number of progressive farmers rose to 165 and there were increased sales of fertilizers, fruit trees and vegetable seeds.

Two further rondavels were constructed at the training farm and during the year 500 farmers and school children visited the farm while seven temporary assistant demonstrators underwent training. Revenue from the sale of milk, Vegetables, eggs, pigs, and poultry amounted to R158.00.

Mafeteng

Rainfall: 32.35 inches.

In spite of the drought during the spring livestock generally kept condition, but losses were reported in the border lowland area. The state of grazing in this essentially arable area is such that annual losses are to be expected. No major outbreaks of diseases occurred. Dosing efficiency varied between 70 and 80 per cent during the year.

Three Brown Swiss heifers, fifty Merino rams, fifteen Angora rams, five pigs and two hundred and ninety chickens were sold to progressive farmers.

Very severe hailstorms in January and February and again in December caused severe damage but in spite of this maize, wheat, peas and sorghum were above average.

The amount of fertilizer sold was smaller than usual due to the farmers' reliance on credit which could not be made available. The sale of vegetable seeds showed a considerable increase to 13,323 packets. The number of progressive farmers increased to thirty-two and three of them raised their incomes from their holdings of from R300.00 to R400.000 mainly from the sale of vegetables.

Mohale's Hoek.

Rainfall: 33.15 inches.

With the exception of the drought period during the spring, livestock generally have maintained condition.

There was a single outbreak of anthrax reported from the Brakpan area during which five cattle died. This report could not be confirmed

microscopically. Several cases of quarter evil occurred, but the disease position generally remained favourable.

Only one bull, sixteen Merino and Angora rams were sold during the year. Eighteen pigs and three hundred poultry were sold.

Dosing has increased in efficiency during the year and reports indicate that during the summer months the percentage dosed reached 95 per cent.

Maize crops suffered badly from cut-worm and stalkborer and the crops were, on the whole, poor. Sorghum was disappointing and peas almost a complete failure. A fair crop of beans was harvested and the 1960-61 wheat harvest was a bumper one. Prospects for both wheat and maize for the coming season are poor.

There was a marked increase in the number of progressive farmers from 22 last year to 60 this year and the land cultivated by them increased from 102 to 295 acres. Sales of fertilizers increased, but due to marketing difficulties sales of vegetable, wheat seed and certain other commodities, did not come up to expectation. The increase in orchards and vegetable gardening both on a private, school and communal basis has been most encouraging. Three new agricultural credit societies were formed during the year and now total 10 with a membership of 141. The effect of these societies on farming is becoming more noticeable.

At the training farm two further rondavels were completed during the year, a third is under construction and it was possible to fence the grazing area, calf paddock and vegetable gardens. With the exception of one Brown Swiss calf which died after falling into a donga, farming operations have proceeded smoothly. During the year the sale of produce, animals and vegetables realised R85.00. Sixteen student trainees, and ten temporary assistant demonstrators attended courses and many farmers, Homemakers and school children also visited the farm.

The Agricultural Show was held in May and while the vegetable, Homemakers and grain sections were good, the livestock sections, although better supported, were of poor quality.

Refresher courses have been held for staff during the year and farm walks (usually on horseback) for progressive farmers have proved popular and productive.

Some 90,000 cuttings, mainly poplars, were planted in nurseries during the year and 45,000 were planted out in reclamation and other areas. Owing to mounting opposition it has not been possible to proceed with the Taung Reclamation Scheme and it was found necessary to remove the heavy equipment from the area. Negotiations are, however, proceeding and it may be possible to continue with the Scheme in the not too distant future.

Quithing

Rainfall: 35.56 inches.

Stock fell off in condition due to the severe drought and lack of water and grazing during the months of August through October. Since then, however, copious rains have restored the pasture and no losses of any significance have been recorded.

There has been a slow but steady improvement in the use of improved

livestock during the year and in all, some forty-four cows and thirty-one mares were brought to the stud bulls and stallions. Sixty-seven Merino and thirty Angora rams, two pigs and 292 fowls were sold.

There were no major outbreaks of disease during the report year and dosing efficiency reached the highest peak ever, ranging between 80 and 90 per cent throughout the year. At the request of the farmers voluntary dipping against keds was commenced in the Malibe tank area where 5,862 sheep were dipped.

Revenue in respect of clinical services and the sale of drugs and vaccines totalled R158-34.

Eighteen foals, eight fillies and ten colts were born at the Quthing stud during the year and the strength of the stud is now 64. The numbers are made up of 4 stallions, 35 mares, 14 young fillies and 11 colts. The general standard of health has remained good but the loss of William of Orange, stud sire, was a very sad blow.

In general crops were fair during the year. Maize and sorghum gave relatively good yields, but wheat, peas and beans were poor. This was due to the uneven rains and the severe drought in the nearly spring months.

There has been a fair increase in the number of progressive farmers during the year, which now total 42 with 430 acres under cultivation. Sales of fertilizers, insecticides, fruit trees and all seeds has shown a marked and encouraging increase. The same cannot, however, be said for vegetable gardens and not only has there been no increase, but the seven existing gardens have not done well. This is due to general apathy on the part of the people.

There are ten credit societies with a membership of 127 and two more are being formed.

Two refresher courses were held during the year but owing to pressure of work, specialist officers were unable to attend.

56,724 trees were planted and the rate of survival has been good despite the drought. Two reclamation areas have been established at Alwyn's Kop and Koali's and are now making good progress.

Qacha's Nek

Rainfall : 35.39 inches.

In Qacha's Nek this was a year of extremes. Light frosts occurred in January to be succeeded by severe hailstorms in January and again in March, while severe drought was experienced during August and October. Heavy rain with more hail fell at the end of the year. As a result stock were affected and losses were reported from Matebeng and Sehlabathebe areas. The livestock census figures for these areas show little variation, so losses were not significant.

The disease position remained favourable during the year and with the exception of a severe outbreak of strangles in the police stables and odd cases of quarter evil, horse-sickness and seneciosis, there is little to report. Dosing has continued to improve but the average throughout the year was only 70 per cent of the optimum and much more needs to be done in this essentially livestock district.

Revenue from veterinary services and from the sale of drugs and vaccines amounted to R144-05.

The early and unseasonal frosts of January did a certain amount of damage to maize, peas and beans in some parts of the district, and continued adverse conditions of hail, extreme heat, drought and more hail all combined to make this a poor crop year. As a result there have been heavy imports of maize and sorghum into this district by traders and there appears to be a general realisation that Qacha's Nek is essentially a livestock and not a crop producing area.

Yields of maize in the district were poor, sorghum fair and beans and peas medium. There are only 18 progressive farmers in the district who between them cultivate 144 acres. It is, however, doubtful whether these really qualify as progressive farmers as is indicated by their total purchase of fertilizers (27 pockets). The total sales of fertilizers, vegetable seeds, grain and insecticides were very poor, but in the case of vegetable seeds this was probably due to the failure of the marketing association to make supplies available at the right time. There was an increase in the number of communal gardens from 85 to 104 and on the whole the maintenance was satisfactory.

There is only one non-functioning credit society in the district and no loans of any kind were available.

A large number of lectures and demonstrations were given during the year, at which the total attendance was over six thousand. These dealt with such widely divergent subjects as sale of bulls and rams, control of weeds, vegetable gardens, control of stalk borer, sale of fertilizers, wool and mohair classing and pruning.

Just over two thousand trees were planted out, mostly in the reserve, but the local nursery was abandoned. Arborita at Sehlabathebe has indicated that only pines will survive under such conditions and prospects for trees in this district do not seem bright. No progress in the field of conservation is reported and it appears that the opening of virgin lands, without reference to the Department, is a common practice.

Mokhotlong

Rainfall: 25.92 inches.

Owing to the severe cold associated with drought and the lack of shelter from the bitter winds some losses of livestock, especially of lambs and calves, were reported from this mountainous area. Here again the census figures indicate that losses were limited and in all sections the September 1961 figures show a marked increase when compared with the 1960 census. This marked difference could probably be attributed to the inaccuracy of the persons conducting the census.

A further veterinary/livestock assistant was posted to Mokhotlong during the year and this has done much to meet the increased demand for veterinary and livestock services from the essentially livestock farmers in this district.

There were no major outbreaks of disease during the year, and with the exception of a severe attack of strangles and sporadic outbreaks of quarter evil the position remained favourable. Dosing was more satisfactorily carried out, but has not yet reached the figure aimed at. The average efficiency during the year varied from 50 per cent in the winter months to 75 per cent in the summer, but a peak of 90 per cent in the

latter period should not be unattainable in a district which relies on livestock and produces some of the best wool and mohair in Basutoland. Nine Brown Swiss Bulls, forty-three Merino rams and twenty Angora rams were sold during the year and the demand remains firm.

Revenue collected from the sale of veterinary drugs and vaccines and in respect of treatment amounts to R217-96.

In spite of snow and frost in summer and the absence of snow and rain during the ploughing season, crops of maize and sorghum were fair, while good harvests of wheat and peas and potatoes were obtained. The prospects for next season appear fair to good.

Owing to the difficulty in transport, transport charges to the isolated areas average 3 cents per lb., no fertilizer was supplied, but a fair amount of kraal manure and ash was used. There are 24 progressive farmers in the area cultivating 170 acres, but the type of farming is mixed arable and livestock. Sales of vegetable seeds and insecticides were low, as were those for grain, but this was largely due to failure to make those commodities available.

There was a gratifying increase in the number of vegetable gardens and there are now 20 communal garden clubs with 342 members, 2,298 private and 80 school gardens. As usual gardening is largely in the hands of women, and in spite of difficulties vegetable products have shown an increase. Drying of vegetables to preserve them for use in winter is widely practised in this district.

There is one credit society with a membership of 77, but owing to administrative difficulties, no credit was available during the year.

More attention has been paid this year to the teaching of agriculture in schools and many lectures and demonstrations have been given by members of the Department. At the same time lectures and demonstrations for farmers have not been neglected and some 700 lectures and demonstrations were given by the Agricultural and Livestock Officer and his staff.

Relations with the District Councils have been good and much has been accomplished, especially with regard to grazing control and the establishment, by Council, of a tree nursery. This augurs well for future activities.

Two thousand gums, poplars and fruit trees were planted during the year, mainly in the Council's plantations.

Grazing in the district is bad and there is an urgent need for an accepted plan for controlled grazing. More and more virgin lands are being opened up and maintenance of soil conservation works has been poor. However, with a good start and increasing co-operation between this department, Chiefs and District Council, this matter is being actively pursued. The hope has been expressed that more diamonds will be discovered in this district and that as a result the poor farmers will abandon their lands and go digging, leaving the cultivation and farming to the real farmers! This wish will find an echo in the hearts of all true agriculturalists.

AGRICULTURAL EDUCATION

1. EDUCATION

The size of the school has been considerably increased during the year, and accommodation is now available for a maximum of 120 students.

2. PUBLIC RELATIONS

(1) *Introduction*

The Public Relations Section carries out extension information work, and also possesses one mobile visual aids unit. The unit tours the low-lands conducting campaigns on important topics, in order to arouse the interest of the farming population, and to help the work of the local extension demonstrator. During 1961 the planning of previous years has come to fruition and the mobile unit is now fully occupied.

(2) *Printed matter*

Eight single page bulletins have been printed during the year. These deal with currently important subjects, and 15,000 copies of each are circulated to schools and farmers. The bulletin continues to be appreciated by its readers, but the time has now come for a "face-lift"; and the inclusion of photographs or sketches.

A start has been made with short-run duplicated handouts designed for special areas or restricted campaigns. These include spirit duplicated miniature posters (size 8"x13") in six or seven colours. The first copy of "Mokhosi oa Taung" (the Taung Clarion) was well received in the 125 sq. mile reclamation area concerned. The "Clarion" contains factual information about this reclamation scheme. Modern multi-colour duplicating equipment is expected to arrive soon, which will make possible an increase in the number, and improvement in the quality, of short-run pamphlets.

The Basutoland Farmers' Journal (No. 8) was published in June, much later than expected, but the extra time spent on editing this 96 page magazine has been well repaid by the increased demand. The journal is printed in both English and Sesotho, and is amply illustrated with photographs. A fortunate trend is the increasing number of letters and articles submitted by the farmers themselves.

(3) *Posters*

Two or three posters have been hand-drawn for each campaign. The impact of these is increasing because both the staff and audiences are becoming more experienced in using and interpreting this medium. Silk screening equipment is expected to arrive soon, and will make mass distribution possible. One commercial firm presented the Department

with 300 copies of each of three posters on insect pest control. These were specially designed for Basutoland and have proved most useful.

(4) *Slogan notice boards*

A further 80 notice boards have been made for erection mainly in the, Southern districts. The notice boards, made from hard board and framing, bear stencilled and spray painted slogans which draw attention to good farming methods. They are erected near outstanding crops which border public paths. Reports on the notice boards erected last year (1960) indicate that they are a valuable means of drawing attention to good farming, and might even be erected, with suitable wording, on poor crops as well! It is encouraging that there has been only one reported case of damage, and this was not necessarily malicious.

(5) *Photography*

The section now possesses 1,000 colour slides, and almost 1,000 black and white negatives. Rapid selection of the appropriate photographs proved difficult until a fully cross-referenced card index was compiled. This provides easy selection of photographs and transparencies on any subject, but requires very careful original entries. More convenient systems of indexing are being considered.

Black and white photographs have been used mainly for record and publishing purposes this year, but public display of selected photographs will be started again soon. A tiny darkroom has been fitted out, which assists the rapid production of photographs when the need arises.

Colour slides have been used mainly for daylight shows during the campaigns, but also to some extent during evening film shows.

(6) *Film production*

The section has produced its first magnetically striped 16 mm. colour film on an agricultural topic – soil erosion. Technically this film is very poor, but the mere fact that it was taken in Basutoland has given it tremendous interest value for the farming audiences. The Sesotho commentary aids better understanding of the film. Arising out of this first experience it is now felt that the value of the amateur films has been overlooked in the past. Unfortunately it has been impossible to find trained staff to edit the accumulated back log of exposed film, and to continue the cine work.

(7) *Public Relations van*

The mobile audio-visual aids unit is now complete. A collapsible reflex screen, for daylight projection of colour slides; has been made by the section, and this presents clear pictures to audiences of as many as 150 at a time. A 15 watt mains/battery amplifier is used to broadcast music and announcements while the vehicle is in motion.

(8) *Public Relations campaigns*

During the year under review 123 campaigns and meetings have been held in six districts. The team spent 109 days in the field and total attend-

ance at these gatherings is estimated to be in the region of 9,500 men, women and children.

In the first half of the year a lot of time was taken up with staff refresher courses and visits. However, in the second half two assistant demonstrators were appointed to the section and the unit has since been on tour for an average of two weeks in every month.

(9) *Public relations campaigns*

<i>Month</i>	<i>Subject</i>	<i>Number of Meetings</i>	<i>Number of Evening Film Shows</i>
January .	Maize Stalk Borer Control	1	1
April . .	Taung Scheme I	16	16
May . .	Winter Feeding of Livestock	9	9
July . .	Taung Scheme II	9	9
September	Taung, Improvement of Grazing	9	9
October .	Mejametalana, Improvement of Grazing.	3	3
October- November	Maize Cutworm Control	28	—
November	Legumes	16	16
November- December	Cutworm Control	8	—
December	Maize Stalk Borer Control	24	—
Total		123	63

An experience of campaign organisation has accumulated, so has the effectiveness of this approach improved. It would not be true to say that this type of work is self sufficient, but as a way of stimulating interest in the subject it is very useful. Local extension demonstrators and their senior officers have reported that the campaign focusses attention on a particular subject, and that the amount of local extension work which is necessary to convince the farmer is reduced.

In the organisation of all campaigns care is taken to ensure that the local demonstrator "follows-up", especially amongst those farmers who attended the meeting.

A second unit, operating under the Nutrition/Education Scheme, is expected to be in operation in the early spring of 1962.

(10) *Conclusion*

The year under review has proved an opportunity to build on earlier foundations, and to put into practice ideas which have not hitherto been used widely in Basutoland. The experience so gained suggests that the section is already playing a useful part in the extension programme.

AGRICULTURAL EXTENSION WORK AND RELATED ACTIVITIES

1. PROGRESSIVE FARMING

The Progressive Farmer movement supported by Credit facilities provided by Agricultural credit Societies continued to develop satisfactorily. The overall number of registered farmers increased from 487 in 1960-61 to 613 for 1961-62 season. The movement is developing more rapidly in Maseru and the three northern districts where farming is generally at a higher level than in the southern districts.

In some areas there has been a tendency for the better farmers to realise the need for planning and in particular there has been a definite realization on the part of the more successful of the benefits of consolidation of lands. A stage has been reached by the majority of the farmers, where further improvement in farming methods is being hampered by lack of security of tenure, and fragmentation which the existing land tenure system perpetuates. A few farmers have managed by sacrificing more fertile lands in valley bottoms to bring about a certain measure of consolidation of their lands on the ridges by exchange with their neighbours. This shows an awareness and appreciation of the advantages of consolidation.

Table No. 1 indicates the growth of the Progressive farmer movement and the disposition of the land under cultivation. There is an increasing tendency noticeable each year in the diversity of cropping by farmers, but still too many are placing too much emphasis on maize which occupies approximately 50 per cent of the total land under cultivation. While a strong demand exists for maize at a very favourable price to producer, this tendency is likely to persist.

Several literate farmers have started to keep simple income and expenditure records as a guide to their farming businesses, such records are essential for farm planning and organization and are to be encouraged.

Finally it is becoming increasingly obvious to both farmers and the Department that if the Progressive farming movement is to bring lasting benefit to Basutoland, custom and tradition concerning land will have to be changed. Land which is well farmed has an "improved" value, a subsistence economy is replaced by a cash economy, and the question of security of tenure and inheritance become matters of overriding importance to the progressive farmer if the effort is to be maintained.

2. AGRICULTURAL TRAINING FARMS

The three Training Farms at Leribe, Maseru and Mophale's Hoek were further developed during the year. A six month pre-training course for young men accepted for the Agricultural School was conducted between February and August at each farm. The purpose of the pre-training period

TABLE NO. 1

PROGRESSIVE FARMERS MOVEMENT

Districts	Number of Farmers Enrolled			Total Crop Acreage under Cultivation			Total Acreage under Cultivation per Farmer			Crop	Average	Under Cultivation 1961-1962				
												Beans	Wheat	Peas	Potatoes	Other
	1959/60 1960/1 1961/2			1959/60 1960/1 1961/2			1959/60 1960/1 1961/2			Maize	Sorghum					
Butha-Buthe	10	60	78	115	556	609	11.5	9.3	7.5	300.4	141.2	27.2	99.3	39.3	1.6	-
Leribe	73	79	93	464	562	818	6.4	7.1	8.8	466.0	118.0	126.0	50.0	41.8	15.5	1 S. Beans
Teyateyaneng	47	82	90	557	1039	1144	11.9	12.7	12.8	679.7	169.7	178.3	40.5	72.5	-	3 Oats
Maseru	106	132	190	744	1372	2049	7.0	6.6	10.8	928.8	402.4	164.4	379.9	158.1	3.0	12.8 Barley
Mafeteng	16	28	32	157	409	304	9.8	14.6	9.5	120.9	36.4	49.0	64.3	29.0	3.0	-
Mohale's Hoek	8	27	38	50	234	194	6.3	8.7	5.1	108.5	40.5	24.7	13.7	5.3	1.3	-
Quthing	51	31	42	263	345	430	-	11.1	10.2	196.3	134.0	36.0	18.0	31.3	0.5	3.5 Oats
Mokhotlong	21	27	24	202	164	164	9.6	6.0	7.1	70.5	3.5	3.0	42.5	35.0	-	10.3 Barley
Qacha's Nek	21	21	26	-	171	183	-	8.1	7.1	97.7	67.2	11.3	2.0	2.5	-	9.8 Barley
Total	353	487	613	2552	4852	5895	7.2	9.0	9.6	2968.8	1112.9	619.9	710.2	413.8	24.9	42.5

is to teach the simple practical skills of small-scale agriculture and to accustom the trainees to regular farm work. Forty trainees were accepted and allocated to the farms.

Two three day courses were held for farmers on farm organization and records, and field days were conducted throughout the year. (See table below)

<i>District</i>	<i>No. of T.A.D.s & students trained</i>		<i>No. of farmers days held</i>		<i>Total attendance at farmers days</i>		<i>No. of visits of schools</i>		<i>No. of visiting district councillors</i>
	1960	1961	1960	1961	1960	1961	1960	1961	1960
Leribe .	15	28	3	11	63	331	6	4	17
Maseru .	14	23	12	15	423	373	5	8	56
Mohale's Hoek .	5	24	—	6	—	—	6	8	8

The farms had a successful year economically and illustrate what can be done in the way of animal and crop production by adopting simple but intensive methods. Each farm maintains two Grade Brown Swiss Milk cows, four oxen, a small flock of poultry, and one sow provided by the Experimental Station. Feed stuffs except for small quantities of concentrates for poultry and pigs are all produced on the farms. Green fodder such as Barley, Lucerne and Vetches are produced for winter feed purposes, and such crops as Japanese radish and green topped turnips have been grown with success on a small field scale.

3. IN-SERVICE TRAINING

The important aspect of keeping extension and junior specialist staff well informed has been given considerable attention. Short three day meetings have been held quarterly in all districts at which both the specialist officers and senior extension staff of the Department have conducted courses. A more comprehensive programme of in-service training is being drawn up as it is felt that in an isolated country like Basutoland the "backstopping" of junior staff is of paramount importance if successful extension work is to be achieved.

4. AGRICULTURAL SHOWS

Agricultural Shows arranged by local district Agricultural Show Societies were assisted by the Department in all districts except Mokhotlong, Quthing and Qacha's Nek, where no shows were held. Both the standard and number of entries at these shows improve from year to year, and there is keen support for them from the farming community.

The Central Agricultural Show is becoming a focal point for the farmers of the country. Competition is strong and the range and number of exhibits increases annually. The showgrounds were further improved by the addition of more stands for commercial exhibits and the levelling of the ring. Ring events instituted in the previous year included various gymkhana events which proved to be popular innovations.

There were a total number of 1683 entries amongst all classes, and Maseru district won the trophy for the highest number of points gained in the crop classes.

5. FRUIT AND VEGETABLE GARDENING

Basutoland is well suited to the production of deciduous fruits such as peaches and apricots, and a wide range of vegetables. It has been departmental policy for many years to encourage both fruit and vegetable gardening, and Basutoland is well suited to intensive vegetable production. It is estimated that there are $\pm 21,000$ individual vegetable gardens in the Territory which vary in size from a few square yards up to one acre in extent.

Communal vegetable gardens generally worked by ten – thirty women are becoming increasingly popular especially in the southern areas. Suitable sites are selected by extension demonstrators, laid out, plots demarcated and allocated. These communal gardens are based on mutual help amongst the members for the supply of fencing and tools, while members are responsible for the tending of individual plots within the gardens. Many groups set aside a communal plot, or one small plot per member for the benefit of the group, and the proceeds from the sale of vegetables from such plots help to provide fencing tools etc., for the garden.

The following table shows the numbers of communal gardens over the past three years.

	1959	1960	1961
Butha Buthe	—	—	9
Leribe	—	3	7
T.Y.	—	2	4
Maseru	10	25	34
Mafeteng	—	2	14
Mohale's Hoek.	47	50	82
Quthing.	7	7	7
Qacha's Nek	61	85	104
Mokhotlong.	7	17	20
	125	191	281

6. LIAISON – CO-OPERATIVE DEPARTMENT

(1) *Agricultural Co-operative Credit*

The 1960 Report pointed out the very fast growth of this movement. This year a policy of consolidation and education has been followed.

The Co-operative Department has been considerably strengthened. The appointment of a Deputy Registrar, six Assistant Co-operative Officers and two Co-operative Officers, has made possible the establishment of an audit section. Progress in the administration of agricultural Co-operative Societies resulted in the vetting of all applications for credit being delegated to district agricultural and co-operative staff, which saved considerable time, and speeded up the education of members and committees.

There are now 114 registered Credit Societies in the Territory, as against 96 for the previous year.

An amount of R5759-50 was made available to the Credit Farmers for 1961 winter loans, the figure for the summer loans not being available yet. A sum of R23650-13 was repaid by farmers, being loans advanced to them during 1960.

Table No. 2 sets out the number of Societies and members who received credit and the acreages cultivated.

The consolidating of the movement has led to refinements in operation, and has, at the same time, shown up several weaknesses in the marketing arrangement for the Territory.

Quality: Farmers using improved seed, fertilizer and insecticides are producing grain of considerably improved quality. Discontent is now experienced when these farmers are offered the ordinary grain prices. The absence of a grading system and graded prices is keenly felt by these progressive farmers.

Price Stabilisation: Equal concern is expressed by farmers who note the depressed prices of peas and beans at harvest time, and increased prices for the rest of the year. The Co-operative Wholesale Organization this year entered the market and bought sorghum, maize, peas and beans at higher prices, and disposed of these commodities during the off season. The result was a stabilising effect which Basutoland produce sorely needed.

Credit facilities are still limited to short term crop loans, but arrangements for medium term loans for livestock improvement are under way, as well as for fencing and implements.

23 Credit Societies in the Butha Buthe district were provided with small storage sheds, while the construction programme is temporarily held up as a result of Capital shortage.

The rate of the loan recoveries appears to be linked directly to the efficiency of the marketing organisation's ability to collect, grade and pay for crops as and when they are harvested. Where they operate successfully 93 per cent of loans were recovered, while the amount was very low in areas where they could not provide a good service. The complete recovery figures are awaiting an audit.

(2) *Wholesale Organization*

It unfortunately became necessary to re-organise this section as a result of difference in policy between the shareholding partners. The organization was consequently taken over entirely by the Basutoland

TABLE NO. 2
Credit Societies

District	No. of societies (receiving loans)			Membership		Total acreage under cultivation		Average acreage per member	
	1959-60	1960-61	1961-62	1960-61	1961-62	1960-61	1961-62	1960-61	1961-62
Butha Buthe	5	16	16	294	343	1,705	1,910	5.8	5.6
Leribe	1	24	27	584	616	3,495	4,970	6.0	8.1
Teyateyaneng	1	6	6	306	375	3,343	2,883	10.9	7.7
Maseru	-	17	25	244	397	1,623	2,329	6.7	5.9
Mafeteng	-	13	13	191	202	2,000	2,145	10.5	10.6
Mohale's Hoek	-	7	10	102	141	667	-	6.5	-
Quthing	-	9	8	117	126	947	873	8.1	6.9
Qacha's Nek	-	-	1	-	11	-	86	-	7.8
Mokhotlong	1	1	1	75	75	385	476	5.1	6.3
	8	93	107	1,913	2,286	14,165	15,672	7.4	6.9

Co-operative Banking Union. In spite of a change in senior staff, a vast increase on the demands for service and lack of storage, transport and capital, fair expansion in turn over and supplies was recorded.

The following table shows the steady increase in services provided:

	1960	1961
1. Carts	96	78
2. Vegetable Seeds	161,194	179,480 Pkts
3. Sorghum Seed	13,763	37,600 lb.
4. Maize Seed	147,223	207,400 lb.
5. Bean Seed	70,808	150,800 lb.
6. Potato Seed	71,887	117,771 lb.
8. Wheat Seed	75,975	360,000 lb.
9. Oat Seed	13,180	8,700 lb.
10. D.D.T. Powder	2,840	7,900 lb.
11. Dieldrin	6,864	10,545 oz.
12. D.D.T. Emulsion	342	gal.
13. Seed Dressing	4,790	6,279 oz.
14. Superphosphate	1,160	1,495 tons
15. Nitrogenous Fertilizer	32	79.7 tons
16. Grain Tanks	7	8
17. Droppers	686	1,905
18. Gates	15	10
19. Standards	475	1,038
20. Corner Posts	333	317
21. Rolls wire, e.g. Barbed	134	3,711
22. Rolls of netting wire	106	3,931

CROP

1. Wheat Crop	9	Bags
2. Maize Crop	1,433x200 lb	„
3. Sorghum Crop	280x200 lb	„
4. Potato Crop	83x 75 Pkts.	

The wholesale department has also constructed a spacious central supply depot shed and offices in Maseru, a smaller one in Quthing, and converted unused grain tanks in Mohale's Hoek, Mafeteng, Teyateyaneng and Leribe. It already has a depot store in Butha Buthe.

Transport services improved and can now cope with demands.

(3) Co-operative Marketing Societies

Considerable expansion took place in this section. The three old established societies embarked upon the marketing of produce as well as consumer goods. At the same time others were registered in Maseru, Leribe and Qacha's Nek districts.

The marketing pattern is now :

Exports: Wool, Mohair, Cattle, Hides and Skins.

Sale to Members: Maize, Flour, Other consumer goods.

Most of these commodities are purchased from the wholesale organization.

The office of the Registrar of Co-operative Societies has developed a market report advice service to all marketing societies, while educating them in the marketing of their produce, as well as assisting in finding markets for the produce.

A more recent but necessary development is the ability and desire of these societies to purchase and store grain for internal consumption and re-distribution. The wholesale organization is now purchasing most of its seed requirements from these societies.

(4) *Liaison with Republican Control Boards*

In the 1960 Report a full résumé was given of the relations and arrangements in price between Basutoland and the various Marketing Control Boards. These remained unchanged, and close liaison was maintained during the year with the Maize and Wheat Control Boards, while other Boards were consulted as occasion arose.

One aspect which remained unsolved was the difficulty of Basutoland obtained maize from sources near its borders. The Maize Board maintains a policy of not allowing any consumer who has insufficient maize to import from a neighbouring area. Whenever it becomes necessary to bring in maize it is only provided from "Surplus" areas, usually the North-Western Free State, and not from self-sufficient areas next to the importers area.

7. MASERU EXPERIMENTAL STATION

General

As a result of a new Colonial Development and Welfare grant the Agricultural School was enlarged to accommodate 120 students in place of the original 40. This involved the enlargement of the existing Dining Hall and kitchen, and the construction of 22 rondavel dormitories, an additional lecture hall, a second ablution block, teachers' staff room, library, and additional offices.

On the farm 7 rondavel type poultry brooder houses were built to replace the old brooder house which is being converted into deep litter laying houses. A further farm shed was built, while the old stable was converted into a farm dairy, and the old fertilizer store converted into a stable, calf shed and harness room. A freak tornado hit the station on 9th December, doing considerable damage to buildings.

Research and investigation

The programme of experiments and crop investigation was continued at Maseru and the 6 district sub-stations. Results are summarised below. Full details of the year's results will be published separately as Volume II of this Annual Report.

(a) *Variety Trials*

On early and late planted maize, early and late planted wheat, beans, peas, sunflower, castor and linseed were continued at Maseru, Machache and Mokhotlong. A feature of the maize variety trails is the fact that in

almost all cases the "Flint" varieties are more reliable yielders than the "Dent" varieties.

Further multiplication and distribution of the mountain wheat varieties was made.

(b) *Fertilizer Trials*

These included N.P.K. Factorials, spacing experiments, comparisons of manure, ash and phosphates ; comparisons of various types and rates of phosphates and nitrogenous fertilizers, crop rotation experiments and methods of tillage, and weed control, as well as field trials with iodine.

(i) *Nitrogen*

Nitrogenous fertilizers again improved maize yields on all sites in the lowlands and foothills, irrespective of plant populations, but responses were greater at higher plant populations. It appears that 14-15 inch spacing in 3 foot rows is the optimum for Basutoland conditions.

There was further confirmation that Urea is equal to Limestone Ammonium Nitrate as a Nitrogenous fertilizer when applied at the same rate of N. to maize. Because of the lower unit cost of N. in Urea and reduced railage costs this product should be preferred to Limestone Ammonium Nitrate, and result in lower maize production costs.

There were the usual responses to added phosphate and consistent N.P. interactions in the lowlands and foothills.

All summer and winter N. treatments on maize increased yields, but the ploughing in of maize stover in winter caused yield reductions. After a three years grass ley that received varying rates of N. there was no response from residual N. on a maize test crop.

(ii) *Phosphate*

All crops again showed responses to phosphatic fertilizers. This was also noticeable on the fertile black mountain soils. It appears that these soils become depleted of phosphates after about 5 years continuous cropping.

(iii) *Potash*

The only potash trial at Mokhotlong showed no responses. This is a result to be expected when compared with previous results of potash trials.

(iv) *Lime*

Further responses to lime on foothill red loams have been recorded.

(v) *Manure and Manure Ash*

Continued to give yield increases.

(c) *Trace Element Trials*

(i) *Molybdenum*

Further responses to Molybdenum on certain soils have been recorded.

(ii) *Sulphur*

First field trials of applying Iodine to wheat have shown crop responses to 8 ozs. of Potassium Iodide per acre. These results confirm the results of pot tests carried out previously.

(d) *Crop Rotation Experiments*

These were continued and show differences between rotations.

(e) *New Crops*

The observations of Pyrethrum shows that this crop does not do well under dry land conditions in Basutoland. It suffers badly during periods of drought. There is a distinct possibility that it will thrive where supplementary water can be applied.

(f) *Trial Orchard*

Certain varieties of peach and quince bore their first fruit during the year.

The farm

The farm maize crop was again good, 750 bags being harvested from approximately 60 acres. Once again thefts of cobs from lands near the boundaries were severe. A high security fence is being built to curb this loss. The farm also produced approximately 30 tons of lucerne hay, 10 tons of *eragrostis curvula* hay, and one ton of sunflower seed and about two tons of beans.

Pigs: 83 3-month-old piglets were bred at the station and sent to districts for sale to selected farmers.

Poultry: Frequent electric power breakdowns during the winter months resulted in poor hatches, and eventually caused the abandonment of incubation at the station much earlier than is usual. This resulted in reduced production and only 2,011 3-month-old birds were sent to districts for sale to farmers. Reduced incubation resulted in additional eggs being available for sale; 32,424 being sold.

Sheep and Goats: The small flock, controlled by the Wool and Mohair Officer, continued to do well. They are kept at the Station mainly for instructional purposes.

Forestry: 97,005 young trees were grown for planting in Maseru district. These consisted of 71,280 deciduous trees and 25,725 evergreens.

PART II

SECTION I

CROP PRODUCTION AND FOOD SUPPLIES

1. EXPORTS

The following table sets out the export figures for the main crops in bags of 200 lb. weight. These figures refer to export permits issued to trading organizations, and do not take account of produce taken over the border by individuals.

	1956	1957	1958	1959	1960	1961
Wheat	82,114	101,077	51,741	18,344	39,348	25,673
Peas/ Beans	62,943	38,608	47,300	25,904	11,083	5,701
Sorghums and Malts	5,643	10,003	11,864	680	2,046 5,826	1,592

2. IMPORTS

During the calendar year 143,009 bags (200 lb. wt.) of maize were imported from the Republic of South Africa.

(a) *Maize and Sorghum*

The season for maize and sorghum production was average: Initially conditions were good for the production of well above average crops, but a long mid-season drought in January and February caused a considerable reduction in maize yields. The early spring rains of 1960 brought about extensive cutworm activity and later on the stalk borer was unduly active. Losses from both cutworm and stalk borer attack can be of serious consequence to the farmer – and it is interesting to note that an ever increasing number of farmers are resorting to the use of insecticides.

The 1961–62 season started late and maize and sorghum prospects are poor.

(b) *Wheat*

In most mountain and foothill areas the summer wheat crop was well above average. The increase in wild oats in cultivated wheat lands is reaching serious proportions in some mountain areas. The remedy lies in the farmers' hands, rotation, good cultivation (winter ploughing) can reduce the incidence of wild oats considerably and all farmers are being continuously encouraged to practise eradication.

Winter Wheat: In the lowland areas a campaign to encourage planting of a larger acreage of wheat was conducted. Winter rainfall was adequate and good crops were harvested.

(c) *Peas and Beans*

Summer mountain peas and Lowland summer beans realised average yields. Each year progressive farmers continue to increase their acreages of these crops, with fair to good results. The Lowland winter pea crop was only poor to fair due to caterpillar attack at podding time. The market for White Harricot beans and Blackeyed Susan peas remained steady at a worthwhile price for farmers.

(d) *General*

Marketing generally is unorganized and there is a need for more co-operative marketing societies in the Territory. With the supply of agricultural credit this is now becoming a pressing problem.

LIVESTOCK INDUSTRY

1. GENERAL

This has been a red letter year for the Livestock Services in that it has seen the commencement of a scheme to supply improved Livestock and Veterinary Services to the farmers of Basutoland. A scheme has been submitted for the establishment of thirty-five Improvement Centres throughout Basutoland. These Centres will be the headquarters of the smaller Veterinary areas to consist of 5-6 tank areas each and will be under the control of Livestock/Veterinary Assistants. These Assistants will be holders of diplomas from the Maseru Agricultural School and will undergo an intensive six-eight months' course in animal husbandry and veterinary science. They will supply all veterinary clinical and disease control services to the farmers in their areas, and will be responsible for all animal husbandry extension work. A stud stable will be erected at each centre where stallions and bulls will be available for the servicing of mares and cows, and where bulls, Merino and Angora rams, pigs and poultry will be available for resale. Such assistants will have a stud groom to look after the stables. These Centres will, whenever possible, be sited next to existing wool sheds, so that all the livestock activities of the area will be under his eye. A small lean-to hide banda will be erected where local farmers can bring their hides and skins for preparation and drying according to the approved method.

These centres will meet a long felt want and will make livestock and veterinary services available in those areas which have hitherto been neglected. The appointment and stationing of thirty-five fully trained and enthusiastic men able to supply veterinary services and lead the farmers towards improved animal husbandry should do much to put this industry on a sound footing. A start has been made and this year four of the six trained veterinary/livestock Assistants have been appointed to livestock areas, selected with the approval of the Chiefs and people. Funds are shortly to be made available for the building of such centres and for the further training of assistants. It is hoped that by the end of March, 1963, some twenty centres will be erected, staffed and equipped and that further funds will be made available for the completion of the scheme by the end of 1964.

During the year, too, Mr. Makoa spent a year in Australia studying the sheep and wool industry and he has now returned to Basutoland as a Livestock Officer to do extension work amongst the sheep and goat farmers.

2. LIVESTOCK INDUSTRY

Weather

In spite of topsy-turvy weather conditions this year has, generally speaking, been a good one for the livestock industry. Following the copious rains of late summer and Autumn the grazing remained in good

heart during the winter and in spite of delayed rains in the spring there was a sufficiency of stover and especially of grass on the buffer strips in lands to see the stock through.

3. ECONOMIC ASPECT

The census figures for 1961 reveal a considerable rise throughout when compared with 1960, which seems to suggest that the accuracy of that census is, to say the least, questionable. During the year imports exceeded exports by a very considerable margin and the livestock industry balance of trade has widened instead of narrowing. The average prices received for products remained stable.

4. AUCTION SALES

Departmental sales were held during the year at Qacha's Nek in the course of which some 600 cattle and 500 sheep were sold at an average of R44-00 and R6-50 respectively.

This year an agreement has been entered into by which the Qacha's Nek District Council will take over the running and organization of these sales, although the local staff of this department will continue to assist with propaganda, branding, inoculation and handling.

In addition to these sales the co-operative department organizes sales in various parts of the country where cattle are bought on a weight and grade basis as determined by the use of a weigh-band. As a result of such sales some 800 were exported.

5. SHEEP AND GOATS

A detailed summary of the wool and mohair industry has been written by the Wool and Mohair Officer. Suffice it to say that the condition of Basutoland sheep and goats and consequently of its wool and mohair is giving cause for grave concern. It has been repeatedly stated that, as the result of the importation of desirable Merino and Angora rams, there has been a marked improvement in the quality of wool and mohair and to-day both these articles enjoy a very fair reputation. What has not been stressed, but did, however, contribute equally to this improvement was the departmental policy of castrating undesirable and crossbred rams on sight. As a result, by the early fifties the crossbred or "bastard" ram had been reduced to such an extent that only some 4 per cent of the wool clip was classed "coarse, hairy and kempy" wool, as compared with 30 per cent in 1939. Although this summary sterilization of their bastard rams did not receive the unqualified approval of the average farmer, it was, nevertheless, accepted as a necessity. To-day, however, as a result of political changes and government policy, such direct (and effective) action cannot be practised and as a result the number of crossbred rams, both sheep and goats, has increased. Whereas five years ago bastard rams were hidden away and crossbred sheep were a rarity, to-day they

can be seen in most flocks. The Paramount Chief has laid down that the possession of such rams is an offence, and places on Chiefs the responsibility for the elimination of such animals. Nevertheless nothing, or at the most, very little, is being done about it and if the policy of "laissez-faire" is continued Basutoland's main industry will not be in a position to contribute its full share to the national exchequer, and the excellent work of the past 25 years will be undone. Much thought has been given to this matter and while it is agreed that a return to the old system of "castrate and be damned" is out of the question, considerable pressure must be brought to bear on chiefs, councillors, headmen and farmers to eliminate the bastard rams. To avoid any of the stigma and unpopularity of regulatory and control work attaching to the extension staff it is proposed to give this duty to a regulatory staff under the control of the Principal Veterinary Officer.

6. HORSES AND OTHER EQUINES

A further 27 foals consisting of 14 fillies and 13 colts were born during the year, but the stud suffered a further severe blow when Sir Valient's full brother William of Orange died as a result of colic at Quthing. It was hoped to station a Veterinary Officer at Quthing, but although a vacancy exists a combination of shortage of Veterinarians and the salary factor has made it impossible to obtain such an officer. The demand for stallions has increased, but in view of the plan for the extension of veterinary and livestock services through the establishment of improved centres, it has been found necessary to retain all available stallions for these centres. Some time must elapse before these full requirements are met and surplus stallions are again available for sale to farmers. Silver Eagle, now in his twenty-third year, remains in good condition, but is now slowing down and it is hoped to obtain a suitable replacement in the near future.

7. CATTLE

The importation and re-sale of Brown Swiss bulls and cows has been stepped up during the year during which some 90 bulls, cows and heifers have been imported and sold.

During the same time a small herd of Brown Swiss cows has been established at the Maseru Experiment Station to supply milk to the staff of that institution who are precluded from keeping their own cows, and two cows have been issued to each of the three demonstration farms. With the co-operation of, and in consultation with, the Director of Health, a start has been made to replace the Jersey herd kept at the Botšabelo Leper Settlement, by Brown Swiss and up to date 12 cows and two bulls have been supplied to the farm. This is a considerable step forward as all these places are in the public eye and the presence of well fed, well kept, and well bred cows should do much to popularise the breed and encourage farmers to follow their example. In addition this will constitute the

beginning of a Basutoland breeding scheme which will save the country considerable expenditure in the future.

Two District Councils are considering the establishment of communal dairies in their districts, but slow progress is being made. Nevertheless, this is an encouraging sign that the people are becoming aware of the importance of animal fats and protein, especially milk, in the diet, and are anxious to take steps to make such supplies available. Councils are being advised and encouraged in their endeavours.

8. HIDES AND SKINS

The firm of H. Hides has made steady progress in the matter of hide and skin improvement, and owing to their efforts in the preparation and marketing of these products the demand for Maluti hides and skins has shown a marked increase. Unfortunately the firm's finances suffered a set-back during the year due to the withdrawal of support by two backers. After various vicissitudes the firm has now been taken over by the Basutoland Co-operative Banking Union, to be run on a co-operative basis. Whether, in view of the antipathy of the traders for Co-operative enterprises generally, and bearing in mind that at the present time traders handle roughly 90 per cent of the hides and skins, any venture can succeed on that basis remains to be seen, but the industry is of such importance to Basutoland that all steps must be taken to put this industry on a firm footing. Provision has been made for the erection of hide and skin bandas at the suggested improvement centres. Farmers can bring their hides and skins to these bandas and prepare and dry them under supervision. This should materially assist in stepping up production of Maluti hides, which has hitherto been limited to butchers and government institutions.

9. TATTOOING AND REGISTRATION

This work is still carried out by the demonstration staff in charge of tank areas, but owing to lack of supervision the efficiency is low. Census figures submitted by these men are suspect.

10. WOOL AND MOHAIR

Sheep and Wool

The emphasis at the end of this year must be on the danger of ruining the wool clip, which has been steadily improving for the last 35 years, by a swing towards the production of mutton or dual-purpose sheep. Fortunately this trend is not general, especially among the more influential sheep owners, who still pin their faith on the production of fine, pure merino wool. Nevertheless, a great many of the smaller owners, usually in the arable areas, are now producing sheep for sale and slaughter under the mistaken idea that mutton is in great demand due to a shortage.

There is a tendency to abandon past policies and the production of mutton instead of wool sounds attractive to the uninitiated. Too much

importance cannot be attached to wool and mohair production in Basutoland, contributing, as it does, a large proportion of the country's income. In no circumstances whatsoever should the policy of improvement, through purchase of suitable rams, classing and culling be curtailed or modified.

The Wool Clip

The mean price for Basutoland wools during the 1960-61 season was 19.9 cents per lb. compared with 21.5 cents in 1959-60. The price of wool for the season 1960-61 has remained very steady. The maximum variation during the whole year was not more than 2 cents.

Duty was paid on 7,356,476 lb., worth R1,463,938 at the coast, compared with 6,786,356 lb., worth R1,459,066 in 1960; an increase of 570,120 lb. and R6,862.

Hairy and Kempy Wool

Since the figures for hairy and kempy wool have been kept (1938) the great variation in percentages follows no pattern whatsoever. The jump this year to 11 per cent from 6 per cent was expected and predicted in the 1960 report. This prediction was based on the great numbers of cross-bred rams actually seen.

Taking the average of 19.9 cents per lb. for 1961 for the whole of the Basutoland clip and 12.5 cents for C & C and CW the loss incurred through 11 per cent being hairy, kempy and coarse is over R50,000.

Sheep Improvement

The policy of purchasing rams from well-known breeders in the Republic was continued this year, when 452 rams were purchased for resale to the sheep farmers at subsidised rates. This brings the total of such importations up to 16,319 since 1935. The policy up till 1960 has been to purchase rams from the Karroo. This year, however, 15 rams were bought from Zastron and a further 60 from Barkley East. Particular attention will be paid to the survival rate and fertility of these rams.

Wool from the experimental flock much reduced after last shearing, realised R15.00.

Goats and Mohair

The Clip: The mean price for Basutoland mohair for the 1961 season was 60 cents per lb. The market opened very firm with an average of 71.8 cents per lb. but tailed off, and by December the average was only 50 cents. This drop of 20 cents over the season is not quite as serious as it may seem because from June onwards nearly all the Basuto hair has been short and thus demanded less competition. Until June the shorter types of mohair constituted 25 per cent of the clip, whereas from then the average has gone up to 35 per cent. There is always a great demand for the long lines, which sometimes fetch double the price offered for shorts. Exports at 1,266,125 lb. showed an increase over 1960 of 85,455 lb. On this basis the mohair clip realised R759,675 as compared with R658,912 for 1960.

Goat Improvement

In February, 1961, 200 Angora rams of excellent quality were purchased from top breeders in the Karroo for re-sale to Basuto farmers at subsidised rates. The rams sold very quickly as the demand exceeded the supply.

This brings the total importation of Angora rams to 2,593.

Proceeds from the sale of mohair from the experimental flock realised R48.77.

General – Preparation of Wool and Mohair Clips

The policy of exporting only wool and mohair that have been classed by Government Classers (both traders and Government) continues with the usual satisfactory results. Routine classes, both refresher and initial, were held throughout the Territory for classers and flock owners during the respective seasons. It was a pleasant surprise to notice that three women attended classes at Seetsa. This departure is viewed with favour and is being encouraged.

The progressive farmers (small stock) scheme inaugurated last year is progressing. Now an average of seven farmers per district have been recorded and where possible given advice and assistance. Arising out of this exercise is the surprisingly small proportion of farmers who go in for supplementary feeding for ewes with lambs and winter feeding for any stock.

The wool shed at Ox-Bow has been completed.

SECTION III

VETERINARY

1. ANIMAL HEALTH

General

There have been no major epizootics during the year under review and the health of Basutoland's livestock has remained comparatively good. There have been the usual seasonal outbreaks of Quarter Evil, stiff-sickness, and bluetongue, but losses from these diseases have not been significant.

2. SMEAR EXAMINATION

A total of 374 blood, spleen and muscle slides were examined during the year.

3. SCHEDULED DISEASES

(1) *Anthrax*

A single outbreak of anthrax was reported from the Mohale's Hoek district during the year, but could not be confirmed. 33,000 doses of vaccine were used during the year, almost exclusively for the immunisation of cattle imported into, and exported from, Basutoland.

(2) *Quarter Evil*

In all 57 outbreaks of quarter evil were recorded during the year. Quarter Evil is a well-known disease and the farmers themselves normally inoculate their young stock before shearing or a change of grazing to the mountain areas. During the year some 16,400 doses of quarter evil vaccine were issued.

(3) *Equine mange*

No progress can be reported in the control of this disease. The treatment of individual cases is undertaken by veterinary staff and this helps to keep the disease in check but the disease remains widespread and, for economic reasons ineradicable.

(4) *Mange in other animals*

Only a few cases in dogs have been recorded.

(5) *Lumpy skin disease*

A few cases of this disease have been reported from the Butha Buthe district, but the disease is not, as yet, of economic significance and under local conditions quarantine cannot be effected.

(6) *Rabies*

Fortunately Basutoland has remained free from this disease, but the ever increasing outbreaks in Natal and the Orange Free State give rise to concern. It was intended to embark upon a campaign of voluntary inoculation, but to date all available supplies have been allocated for use in the immunisation of dogs leaving or entering the territory with their owners on transfer. Attempts have been made to bring home the seriousness of this disease to the Basotho and convince them that the casual movement of dogs between the Republic and Basutoland is dangerous, and the police have been asked to increase their vigilance. Nevertheless Basutoland has a long, difficult border to control and where attempts to control the smuggling of wool, mohair and livestock have failed signally, there is little hope that any attempt to control the illegal entry of dogs will be any more successful. As hitherto, rather more faith must be placed in the South African Veterinary authorities' ability to prevent the spread of the disease to our borders, than in this territory's ability to keep it out.

Reasonable supplies of vaccine should shortly be available ex the United States and these will be adequate to immunise travelling dogs.

(7) *Other scheduled diseases*

No other notifiable diseases have occurred during the review year.

4. NON-SCHEDULED DISEASES

(1) *Anaplasmosis and piroplasmosis*

Several cases of these two tickborne diseases have been recorded especially in the Maseru reserve, at the Experiment station and at Botšabelo, where owing to a measure of grazing control the grass is of sufficient length to harbour ticks. The spray race at the Maseru clinic has been completed and is now in operation. All government animals are put through at weekly intervals during the summer, and private animals are sprayed on behalf of the owner on the payment of a small fee. The early demand and results are encouraging. During the year some 360 doses of gallsickness vaccine were supplied, but owing to the difficulty in ensuring delivery while the vaccine is still viable, the issue, except in cases of real need in the lowlands, has been discontinued.

(2) *Strangles*

Severe outbreaks of strangles played havoc with police stables in several districts, and the disease appears to have been more severe than in previous years. Cases also occurred in stud animals, especially the foals at the Maseru stud, but as, owing to the shortage of grazing pending the completion of the new stud paddocks in the race-course area of Maseru, the stud and the clinic are very close together, this is not surprising. No fatal cases were reported.

(3) *Biliary*

Biliary has again been prevalent among dogs in Maseru, but all cases have responded to one or other of the drugs employed.

(4) *Vermiosis*

Again a certain amount of progress can be reported and it is pleasing to record that in some districts the efficiency and regularity of dosing is now approaching the expected maximum. Some districts still lag behind, but with the increasing veterinary services and staff being made available, better supervision may put these matters right. It is felt that the increased efficiency of dosing now justifies the use of more expensive and more efficacious vermicides and provision has been made for trial dosing of these drugs in certain selected areas. These trials will assist this division to determine the most effective method of worm-control and should help in the formulation of a more efficient and effective dosing policy.

(5) *Seneciosis*

Many cases of staggers, especially in imported horses, have been reported. As there is little to be done by way of prevention or cure, the only hope lies in the eradication of this plant by efficient grazing control.

(6) *Horsesickness*

Very few cases were reported this year, due probably to the dry period experienced during high summer. 2,170 doses of horsesickness vaccine were issued.

(7) *Bluetongue*

A few cases were reported but losses were not significant. In all some 12,000 doses of vaccine were issued.

(8) *Enterotoxaemia*

No cases of this disease were diagnosed during the year under review. 3,000 doses of vaccine were issued.

(9) *Distemper*

Several cases were treated during the year and no losses were recorded. 36 doses of distemper vaccine were used for the immunisation of puppies.

(10) *Feline enteritis*

Few cases were reported. Two cats were immunised against the disease.

(11) *Ringworm*

Few cases were seen.

(12) *Infectious infertility*

No cases were diagnosed during the year. 160 doses of strain 19 vaccine were used.

(13) *Poultry diseases*

Many cases of Typhoid, fowl Pox, Coccidiosis, Chronic Respiratory Disease and Lymphoid leucosis were seen but owing to the primitive conditions under which poultry are kept, treatment is normally not effective. The following vaccines were used, or issued, during the year,

mainly for the immunisation of poultry produced or reared at the Maseru Experiment Station and sold to farmers for the improvement of their flocks.

Fowl Typhoid	4,900 doses.
Fowl Pox	3,960 doses.

5. VETERINARY CLINICAL SERVICES

The staff of the veterinary clinic have been fully extended during the year. A considerable increase in the number of cases attended and the total number of animals treated is recorded.

For convenience the records have been drawn up in tabulated form:

(1) *Record of Cases and Species Treated*

<i>Total no. of Cases</i>	<i>Medical</i>	<i>Surgical</i>	<i>Advice Drugs and imports</i>	<i>Total no. of Animals</i>	<i>Cattle</i>	<i>Equines</i>	<i>Sheep</i>	<i>Dogs</i>	<i>Poultry</i>	<i>Pigs</i>	<i>Cats</i>	<i>Others</i>
2461	1412	209	840	8299	5844	1193	560	407	164	7	122	2

(2) *Record of Revenue*

<i>Mileage Fees</i>	<i>Services Rendered</i>	<i>Drugs</i>	<i>Vaccines</i>	<i>Stud Fees</i>	<i>Hospital Fee</i>	<i>Miscellaneous</i>	<i>Total</i>
R212.56	R571.78	R551.30	R373.23	R77.65	R81.25	R76.30	R1,944.07

In addition to this a considerable number of Government animals belonging to the Basutoland Mounted Police and Agricultural Departments were treated. All stock entering Basutoland via the Maseru Bridge were inspected and vaccinated against anthrax, as well as those being exported to the Republic.

Clinics were held regularly at Roma and Morija every week and Mokena every second week. In addition to these regular clinics, the District Veterinary Assistant attended cases in all parts of the area.

A total of 374 Blood Slides were examined. Fortunately no cases of anthrax were detected and the disease did not occur in the Territory during the year.

The large scale outbreaks of rabies in neighbouring provinces of the Republic resulted in a voluntary vaccination campaign being undertaken.

Response to this was, on the whole, poor, and some 250 dogs were vaccinated.

Apart from bluetongue and quarter evil, no major outbreaks of disease were dealt with from the clinic.

Further progress in improving the facilities of the Veterinary Clinic is reported, a Spray Race has been built and tested and regular weekly spraying of the Reserve cattle using the best available insecticides is carried out. The number of cattle being dipped is increasing gradually; 2 cents per head is charged. The spraying programme has shown a very definite control of all species of ticks on those cattle that are regularly sprayed i.e. the Experiment Farm herd and Stud bulls.

As the result of rabies in the Republic, isolation kennels have been built at the Clinic. No facilities of this sort existed previously and they have proved very useful for the hospitalisation of small animals until such time as they are required for isolation purposes.

The camping of the Clinic grounds is almost complete. This work has been carried out entirely by the staff during periods when they are not engaged on their normal tasks. A total of 18 camps are now available, 11 of which are post and rail paddocks.

Water has been laid on to all camps and clean fresh water is now available in good sized troughs.

The employment of two saddlers at the Clinic has made a considerable difference to the large quantities of saddlery kept by the Department. The Saddlers are kept fully occupied with repairs and the making of new saddlery.

During the year 6 Veterinary Assistants were trained at the Veterinary Clinic. A graduation ceremony was held and diplomas were presented by His Honour, the Resident Commissioner. Five of the new assistants were posted to Livestock Improvement Centres, the establishment of which will greatly assist both Veterinary and Livestock extension in the Territory.

SOIL CONSERVATION

1. GENERAL

Once more this division got off to a poor start as no funds had been approved for fullscale operations in the field. Nearly half the heavy earth-moving equipment had been boarded and the rest assembled outside Maseru for overhaul. Production was, therefore, confined to minor works in and about the Mejametalana Catchment.

When authority was eventually obtained in April, the new equipment was ordered, but it was not until July-August that it began to arrive. Training courses had to be organised in collaboration with the local agents to teach operators the new techniques which this equipment required. This took a full month before the operators were fully competent to operate on their own in the field.

Field operations started in September in the Districts of Leribe, Maseru and Mafeteng. Works that had previously been surveyed and marked out had to be re-done as much of the marking had been destroyed by weather and farming operations. This involved considerable extra expense and waste of time.

Weather conditions were most unfavourable. The country experienced one of the driest and hottest early summers in many years, which resulted in very difficult ground conditions for earthmoving operations. This very dry period was followed by torrential rains which caused extensive damage to new works.

However, while the equipment and staff were concentrated near Maseru, certain jobs were undertaken for other sections of the department as well as for other departments:

The New Police lines south of Maseru required protection against run off from the adjacent mountain. This operation included diversion drains, a dam and the fencing off of an area for treeplanting.

The road system on the Experimental Farm was completely redesigned and gravelled. Large division drains were constructed in some of the grazing camps and clinic area. This also included the construction of gully banks.

The soil conservation units were also required to take on the task of extending the main runway of the Maseru aerodrome. This operation alone involved the moving of 30,000 cubic yards of soil. The job was completed in the record time of 16 days at an all inclusive cost of 9 cents per cubic yard. This achievement indicates the very high standard of efficiency reached by the operators and field staff.

The construction gangs, who would normally have been busy erecting weirs and spillways in the field, built a new block of offices for the Soil Conservation Officer and staff at Headquarters as well as extending the soil conservation workshops, to meet increased demands from the field units. This programme included a large drawing office for the soil Conservation Officer and six Offices for technical officers and clerical staff

at Headquarters plus an additional 2,740 square feet of workshop floor space. The time spent on this building operation has been well spent in that much more efficient facilities are now available at Headquarters and at the workshop.

2. ENGINEERING AND ANTI-EROSION MEASURES

Buffer Stripping. No Further work is being done as the whole of the territory has been completed.

Terracing. Due to reasons stated above very little progress has been made in this field. However, production figures now coming in indicate that operations are back to normal and satisfactory progress is again being made. At present units are constructing contours in the Mahobong area in Leribe, Mejametalana Catchment, Morija and Matsieng in Maseru district, and in the Qalabane and Litsaaneng areas in Mafeteng district.

Meadow Stripping and Donga Beaconing. Meadow stripping is still being carried out in some of the mountain area by demonstrator staff where they find the local people more co-operative. Donga beaconing is still applied where field units operate, and in the Mejametalana Catchment, much progress has been made.

Dam Construction. Before operations in Taung were closed down in June, six dams were completed in the area, and a seventh large irrigation dam was partly completed. In Mafeteng three dams were completed in the Qalabane area. Ten dams were completed in the Morija and Maseru areas, plus one dam in the process of construction towards Thaba Bosiu. These include four dams in the Mejametalana Catchment, of which one is a large irrigation reservoir. In Leribe one dam was built as a coffer dam for the proposed 600,000,000 gallon Lionel Collet dam which is in the process of construction.

Unfortunately most of these dams were constructed during very dry weather and when the heavy rains fell in December, six of these new dams and two older dams were completely breached and are now being reconstructed. Equipment has had to be regrouped from other areas to effect the repairs as soon as possible.

Treeplanting. Over and above the major treeplanting programme, which is covered separately, field anti-erosion units made good progress planting trees round dams and in dongas and over 180,000 were established.

3. PRODUCTION TABLE FOR 1961

	<i>Prior to 1961</i>	<i>During 1961</i>	<i>Total to Dec. 1961</i>
Area Terraced (acres)	496,037	689	496,726
Length of Terrace (miles)	26,828	39	26,867
Buffer Strips (acres)	688,044	—	688,044
Diversion Furrows (miles)	3,951	—	3,951
Dams Constructed	639	20	659
Concrete Weirs and Inlets	17	2	19
Trees Planted	2,675,980	184,757	2,860,737

Dongas Beaoned (miles)	5,481	143	5,624
Meadow Strips (miles)	1,405	—	1,405
Reclamation Beaoning (acres)	13,296	720	14,016

4. LAND USE PLANNING

Some progress has been made in this field although not to the extent originally anticipated. This is due to a variety of reasons. In the first place the anticipated technical staff has not materialised. The second reason is that attention is being re-focussed on new areas such as Roma Valley, where considerable financial assistance is anticipated and a scheme is being worked out, and the Mejametalana Catchment. These are two very small areas in comparison with those originally included in the plan of operations.

The Mafeteng District Council has asked for a land analysis survey to be carried out of the whole district. This has been started but due to lack of staff is going on very slowly. It is anticipated that under present conditions the work will take about a year to complete.

However, the principle of land use planning has been generally accepted and the concept of the agro-ecological approach to territorial planning is fairly well established.

Taung Rehabilitation Scheme.

This scheme, which started off so well has been discontinued, temporarily.

In spite of efforts made to get the local Chieftainship to appreciate the work done in the ward and to co-operate with the Planning Committee in seeing that grazing control, stock removal and observance of reclamation areas were carried out, no desirable response was got from the Chief and it was decided that all Soil Conservation staff and equipment be withdrawn from the area. This was done on 30th June, 1961.

This was a severe setback as planning and field operations had reached the ultimate stage. The development of a 15 square mile subward and the final detailed planning of a complete village for 73 families had been completed, and ground operations actually begun.

Every effort is, however, being made by the Department of Agriculture and Local Government to persuade the people to abide by the recommendations of the Planning Committee and as a soon as a spirit of co-operation is evident, operations in Taung will be resumed.

Makhoakhoeng Ward

As reported last year, the preliminary analysis survey of this ward has been completed and a comprehensive grazing control programme, based on the three-camp system, worked out for the hundred square mile cattlepost area of this ward. No further progress has, however, been made on account of a boundary dispute between this and the adjacent Butha Buthe Ward. As long as this persists no progress, especially as far as stock control for rotational grazing is concerned, can be anticipated.

Mejametalana Scheme

Good progress can be reported in this scheme, where the initial approach to the task was somewhat different from that used in Taung.

The Public Relations Section has been very active in the area and indications are that the local people are more informed about what is going on. A planning committee has been formed and is also taking an active part in the running of the scheme. The same basic stabilization measures are being applied in this catchment as were used in Taung, with the important difference that in Mejametalana it has been possible to follow this up immediately with the construction of dams and the planting of trees which the people favour very much.

Four dams, one of which is a large irrigation dam with about 10,000,000 gallons of water available for use, have been constructed.

Two large tree areas have been fenced and partly planted up to poplars, pines and peach trees.

Beaconing in the area has been completed involving 14,000 yards of donga which covers 400 acres of land, plus an additional 400 acres of reclamation area beaconed off for erosion control and treeplanting. On the whole these beacons have been respected by the farmers especially as regards ploughing.

The land analysis survey has revealed the following vital statistics of the catchment:

Total area of Catchment	9,920 acres
Approved Arable	2,810 acres
Grazing (Poor)	700 acres
Tree Areas	1,000 acres
Exposed Sandstone	450 acres
Main Raods	100 acres
Donga Beaconing (Complete)	400 acres
Reclamation Areas (Complete)	400 acres
Waste Area	580 acres
Dams Existing	4
Dams Newly Constructed	4
Dams Proposed	14
Number of Tree Camps (Proposed)	18
Maseru Reserve	1,152 acres
Botšabelo Asylum	1,310 acres

Tebetebeng

Operations in this catchment have been stopped for the time being. The Teyateyaneng District Council have however, indicated their desire to start a betterment programme in the area and this may materialise in the near future.

Caledon River

This operation has encountered considerable opposition in the Teyateyaneng District and work has been seriously delayed in some areas. The work is now being handed over to District Councils as the anticipated Colonial Development and Welfare funds for this work did not materialise.

5. GRAZING CONTROL

(i) *Maseru*

At the request of the District Council, a grazing Control scheme for the Maseru District has been drawn up and discussed at length with the Chieftainship and District Council. While the necessity for such a scheme is generally accepted considerable difficulty has been experienced in getting the Chieftainship to implement it in the field in co-operation with the District Council and the field staff of the Department of Agriculture. Staff and funds are also required and the District Council has been advised to make provision for this in their forthcoming estimates.

(ii) *Diptank Survey*

This work has been taken over by the Statistical Section which is busy working out the facts and figures from what has been completed.

The report should be available in the near future.

(iii) *Grass Community Survey*

This work is still going on very satisfactorily, being conducted by the Department of Botany, Rhodes University, Grahamstown.

The preliminary report on the survey is already available and much useful information has been collected.

Conclusion

Although certain sections have been disappointing, progress has been reasonably satisfactory. The staff position, especially in the fields of grazing control and land use planning, is very unsatisfactory and is seriously hampering the entire Conservation Campaign. While much has been accomplished in the slowing down of erosion, the soil continues to deteriorate at an alarming rate and if this is not checked soon, national disaster is inevitable. What is urgently required is the full realization by the Chiefs, Government, both local and central and by the people of Basutoland of the very real danger and then an all-out combined operation to overcome this before it is too late. The writing is on the wall.

SECTION V

FORESTRY

1. GENERAL

In at least two districts the new political set-up has hampered tree-planting, but in others a change of outlook has led to a marked improvement.

The very important work of soil stabilization on the banks of the Caledon River by means of trees and other measures, although initially hampered by District Council opposition, has progressed with less hindrance. It is hoped to press on with this invaluable work, and that these difficulties will soon disappear.

The problem of keeping stock out of these areas still exists and unless local authorities pay more attention to this aspect of the work, little success will be achieved.

2. NURSERIES

It was possible by intensified planting to show bigger yields from the Nurseries.

3.. PLANTATIONS

Of the 43 plantation areas started since 1956, twenty-seven (27) have been completely planted up, while (11) eleven others will be completed in the next planting season.

4. LECTURES

Lectures on tree planting and its advantages were given to Progressive Farmers in the hope that they could better influence their neighbours by work and by example. For this reason Progressive Farmers were issued with free seedlings to plant at their homes. Any farmer who could satisfy the Agricultural Demonstrator in his area that he had adequate protection (fencing) for growing trees was also issued with free seedlings to encourage private planting throughout the country.

5. FRUIT TREES

In response to continued demand by the people, the section again imported, and sold, some 30,000 fruit trees from the Republic of South Africa. This was made possible by borrowing capital from the Basutoland Co-operative Federation, a body now defunct but whose interests have

been taken over by the Basutoland Co-operative Banking Union. The practice of borrowing capital for this work has many disadvantages and it would be better if a fund was created for the purchase of fruit trees for re-sale. The idea of starting fruit tree nurseries in Basutoland should be deferred until such a fund is created.

The following is a list of trees planted during the year 1960 compared with the year 1961.

TABLE NO. 3

	Coniferous		Poplars		Willows		Fruit Trees		Totals	
	1960	1961	1960	1961	1960	1961	1960	1961	1960	1961
Butha Buthe	1,240	1,462	111,561	15,329	7,000	921	3,000	4,000	122,801	21,712
Leribe	2,180	2,591	141,736	193,337	1,100	1,237	3,000	4,000	148,016	201,165
Teyateyaneng	1,810	2,017	173,878	173,030	800	958	3,000	4,000	179,488	180,005
Maseru	2,250	2,261	262,482	263,933	950	1,011	3,000	6,000	268,682	273,205
Mafeteng	3,070	4,123	221,826	256,194	840	1,139	3,000	4,000	228,736	265,456
Mohale's Hoek	2,280	2,134	192,804	190,372	1,010	720	3,000	4,000	199,094	197,226
Quthing	1,980	2,082	93,015	103,524	990	830	3,000	3,400	98,985	109,836
Qacha's Nek	200	357	2,709	2,165	98	—	—	600	3,007	3,122
Mokhotlong	99	—	300	—	20	—	—	—	419	—
Totals	15,109	17,027	1,200,311	1,197,884	12,808	6,816	21,000	30,000	1,249,228	1,251,727

Grand Totals

1,249,228

1,251,727

Year:

1960

1961

TABLE NO. 4
Seedlings and cuttings in nurseries

	Coniferous		Poplars		Willows		Totals	
	1960	1961	1960	1961	1960	1961	1960	1961
Butha Buthe	361	300	103,501	120,377	2,730	1,100	106,592	121,777
Leribe	722	813	145,438	161,269	—	2,589	146,160	164,671
Teyateyaneng	370	421	139,756	157,482	1,550	1,520	141,676	159,423
Maseru	1,324	1,830	265,605	301,441	400	937	267,329	304,208
Mafereng	365	321	228,844	251,087	—	2,120	229,209	253,528
Mohale's Hoek	722	731	201,376	201,031	—	853	202,098	202,615
Quthing	363	391	8,000	11,938	850	877	9,213	13,206
Qacha's Nek	—	—	96,085	—	420	521	96,505	521
Mokhotlong	—	—	—	—	—	—	—	—
Total	4,227	4,807	1,188,605	1,204,625	5,950	10,517	1,198,782	1,219,949

Year:
1960
1961

Grand Totals
1,198,782
1,219,949

SECTION VI

STATISTICS

1. INTRODUCTION AND FINANCIAL MATTERS

In previous reports, mention was made of the difficulties to which the statistical services were subjected as a result of lack of funds and suitable assistant staff. During the year under review, the sum of R31,000 was made available ex C.D. & W. funds. This sum will be used, over a period of 4 years for the expansion of these services, and to enable the Statistician to undertake work for other departments. This money has been spent largely in employing better qualified staff and in purchasing the necessary equipment.

2. WORK DONE

(1) *Biometry*

The Statistical Section continued to give technical assistance to the Maseru Experiment Station on problems of lay-out of their field experiments, and provided a service for the analysis of some 57 field experiments carried out in that year. The analysis of these data was undertaken by a full time computer, engaged in October, and was completed in time for publication in the Departmental Annual Report. Summary sheets, which gave an overall picture of the experiments conducted during the year, were also prepared.

(2) *Consultation*

The Statistical Section continued to provide up-to-date information on statistical services available in the territory. The section has also been consulted by various Government bodies on question of methods used in collection and interpretation of data. These consultations are now increasing, and it is hoped that the expanded services will enable the section to provide the necessary advice to all officers needing such help.

(3) *Lectures*

Lectures were given to junior staff of this section on their work. These included short courses on the analysis of field experiments, the supervision of enumerators and the checking of field schedules, and several other instructions on the processing and tabulation of Agricultural Census results.

(4) *Agricultural Census*

The Agricultural Census, which was described at great length in the 1960 Annual Report was completed in July 1961. This was a year of great activity in the census field and the bulk of the information collected refers to this period. Agricultural Census work carried out during the year is described below under the following headings:

(i) *Training*

At the beginning of the year numerous refresher courses were held, at district headquarters, on the measurement of acreages and yields of summer crops. All enumerators attended these courses and received the equipment which was required in studying these crops. This training was further supplemented by circulars and instructions sent to enumerators during the course of the survey.

(ii) *Collection of data*

The actual field operations started in February and continued right up to the end of July in the Lowland zone. Each enumerator covered 20, 30 or even 40 holdings, measuring 60 fields on the average. This work had to proceed fast, so as to finish in May when crops were ready for harvesting. The harvesting started with beans and sorghum early in May and continued right through June and July. On the whole, the field staff worked hard and in some cases managed to obtain yield figures of crops harvested during the month. In collecting this information there were numerous difficulties which are perhaps worthy of mention. These difficulties arose from the scope of the census, the nature of the enumeration, lack of adequate supervision in the field, and the heavy rains that fell in that year. Some crops were picked earlier than usual, and cases where farmers harvested their lands before the enumerators had taken yields were also reported. Some of these enumerators were handicapped by carrying out livestock census work for the Veterinary Division in February and by assisting in agricultural shows which were held at various centres in May and June. All this work caused several delays in the field and made it difficult for enumerators to reach all crops before they were harvested. In some districts, enumerators were called upon to assist in the eradication of a small-pox epidemic which broke-out in May that year. This had a deleterious effect on the work of those involved in the census.

(iii) *Collection and checking of field schedules*

The headquarters staff was involved in much travelling during the year. This was necessitated by the numerous operations undertaken everywhere by enumerators, and the instructions that were from time to time issued by the statistician on census procedure. Later in the year, all census schedules were checked and collected from district headquarters. Omissions made in these questionnaires were returned to the field for completion.

(iv) *Census Stores*

Reports made from time to time by the field enumerators showed that these men often encountered difficulties which deserved attention, and the methods adopted to solve them could be useful to other enumerators or future survey organisers, when published as part of the census report.

With this aim in view, all enumerators were called upon to write essays on their experiences in carrying out the survey. The three prizes that were offered for the best essays, were awarded during the year. The material obtained from this competition proved to be valuable and is presently being prepared for publication.

(v) *Data Processing*

At the beginning of the year, data collected in the previous year on winter crops and those on the Preliminary Census were checked, coded and processed. Later in the year, the office staff also handled numerous calculations of acreages, yields, seeding rates and slopes of fields planted to summer crops, and helped with the coding of these schedules for tabulation. Mechanical processing of these data was also started with the Service Bureau of the Vereeniging Regional Office of International Computers and Tabulators (Prop.) Ltd., who possess suitable machines for processing.

(5) *Cattle Post Surveys*

Two pilot surveys were carried out, covering all cattle post areas in the Monyahane and Francis Dip-tank areas. These surveys were conducted by the field staff of the Soil Conservation Section, to obtain information on stock movements and grazing which could be used in drawing up grazing control policies for the tank areas concerned. The surveys were also conducted to investigate methods and procedures to be adopted in the projected cattle post survey of the mountain areas of Basutoland. Useful results have been obtained from this work, and suitable arrangements are now being made to have them published.

(6) *Agricultural Shows*

Apart from participating in the Basutoland Central Agricultural Show, the statistical staff prepared a booklet on the number of exhibits presented at the show, and analysed trends over the four years in which the show was started. This pamphlet, has already been published and distributed to all agricultural officials and show committees.

3. DESCRIPTIVE STATISTICS

Routine data obtained from administrative sources continue to be collected and assembled in the form of a statistical series, and will appear annually under the title – Basutoland Agricultural Statistics. Copies for the year 1960 are already available; and those covering the current year are presently being assembled. Great interest has already been shown in meteorology figures presented in these reports, and in some of the Agricultural statistics series which are known to be reliable.

APPENDIX I

MEAN MONTHLY RAINFALL

(Nine stations, at District Headquarters)

1960	Inches	Average for 11 years
September.	1·39	0·92
October	3·09	2·46
November.	4·28	3·66
December	4·65	4·80
 1961	 Inches	 Average for 12 years
January	3·98	4·54
February	2·68	5·04
March	5·31	3·64
April	3·40	2·60
May	1·97	1·48
June	1·59	0·46
July	0·51	0·49
August.	0·66	0·42
September.	0·55	0·84
October	0·32	2·26
November.	5·46	3·81
December	5·14	4·83
Yearly Total	31·46	30·41

APPENDIX II

Livestock Industry Statistics

Census		Cattle	Horses	Mules	Donkeys	Sheep	Goats	Total
1951	.	401,221	102,903	3,089	59,188	1,564,001	637,065	2,767,467
1960	.	331,203	83,910	5,022	48,564	1,037,372	579,166	2,085,237
1961	.	376,740	89,333	4,316	53,013	1,227,386	632,032	2,382,820
Exports	.	8,491						10,574
Imports	.	18,952		33		2,050		32,719
Wool Exports (lb.)	.	7,356,476	4,019	76	242	8,857	483	
Mohair Exports (lb.)	.	1,266,125						
Bones Exported (lb.)	.	720,100						
Hides Exported (Units)	.	11,657						
Skins Exported (Units)	.	80,575						

APPENDIX III

Importation of Maize from the Union of South Africa

(Bags of 200 lb. nett)

	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	Average
56,132	238,391	79,945	39,783	64,245	249,948	90,903	98,089	135,777	231,301	153,350	130,827	

